CLAIMS

WHAT IS CLAIMED IS:

1. A light source, comprising:

an LED that emits excitation light;

a first flexible multilayer reflector that reflects at least a portion of visible light and transmits the excitation light; and

a layer of phosphor material adjacent the flexible multilayer reflector, the phosphor material emitting visible light when illuminated with the excitation light.

2. The light source according to claim 1, wherein the first flexible multilayer reflector comprises a first polymeric multilayer reflector.

3. The light source according to claim 1, wherein the layer of phosphor material further comprises an adhesive.

4. The light source according to claim 1, wherein the flexible multilayer reflector comprises alternating layers of a first and second thermoplastic polymer and wherein at least some of the layers are birefringent.

5. The light source according to claim 1, wherein the excitation light comprises UV light.

6. The light source according to claim 1, wherein the excitation light comprises blue light.

7. The light source according to claim 1, wherein the layer of phosphor material further comprises a binder material.

8. The light source according to claim 1, wherein the first flexible multilayer reflector comprises a polymeric material that resists degradation when exposed to UV light.

9. The light source according to claim 1, wherein the first flexible multilayer reflector is a polymeric material substantially free of inorganic materials.

10. The light source according to claim 1, wherein the first flexible multilayer reflector is disposed between the LED and the layer of phosphor material.

11. The light source according to claim 10, wherein the first flexible multilayer reflector reflects visible light and transmits UV light or blue light.

12. The light source according to claim 1, wherein the layer of phosphor material is disposed between the LED and the flexible multilayer reflector.

13. The light source according to claim 12, wherein the first flexible multilayer reflector reflects yellow or red light and transmits UV, blue, or green light.

14. The light source according to claim 1, wherein the layer of phosphor material is coated on the first flexible multilayer reflector.

15. The light source according to claim 1, further comprising a layer of adhesive material disposed between the layer of phosphor material and the first flexible multilayer reflector.

16. The light source according to claim 1, wherein the layer of phosphor material is a discontinuous layer of phosphor material.

17. The light source according to claim 1, wherein the layer of phosphor material is a plurality of dots of phosphor material,

18. The light source according to claim 17, wherein each dot has an area of less than 10000 microns^2.

19. The light source according to claim 17, wherein the plurality of dots comprise phosphor material that emits red, green and blue light when illuminated with excitation light.

20. The light source according to claim 1, further comprising:

a second multilayer interference reflector, wherein the layer of phosphor material is disposed between the first flexible multilayer reflector and the second multilayer interference reflector.

21. The light source according to claim 20, wherein the second interference reflector reflects the excitation light onto the phosphor material and transmits the visible light.

22. The light source according to claim 20, wherein the second interference reflector reflects yellow or red light and transmits UV, blue, or green light.

23. The light source according to claim 20, wherein the second interference reflector comprises a polymeric material that resists degradation when exposed to UV light.

24. The light source according to claim 20, wherein the second interference reflector is a polymeric material substantially free of inorganic materials.

25. The light source according to claim 20, wherein the second interference reflector comprises alternating layers of a first and second thermoplastic polymer and wherein at least some of the layers are birefringent.

26. The light source according to claim 17, wherein at least a first phosphor dot emits light at a first wavelength and a second phosphor dot emits light at a second wavelength different than the first wavelength.